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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,026	10/16/2003	Guoshe Lee		9134

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SEYFARTH SHAW LLP
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CHICAGO, IL 60603-5803

EXAMINER

PENDLETON, BRIAN T

ART UNIT	PAPER NUMBER
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2615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/687,026	LEE ET AL.	
	Examiner	Art Unit	
	Brian T. Pendleton	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 8-13 is/are rejected.
- 7) ☒ Claim(s) 5-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 10 is objected to because of the following informalities: There is a reference to “VLHR” which is vague and indefinite. Applicant must clarify the terms’ meaning in the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Kosaka, US Patent 5,893,058. Kosaka discloses a speech recognition apparatus and method which recognizes nasal sounds comprising a microphone for capturing a voice signal, formant tracker for calculating a fundamental frequency of the voice signal (figure 3), a divisional frequency based on the fundamental frequency and calculating powers of the high frequency band and low frequency band (figure 4, steps 2 and 4), and calculating a voice low-frequency to high-frequency ratio (steps 2 and 4). See column 3 line 58 – column 5 line 52. Claims 1, 2 are rejected. Regarding claim 3, inherently the divisional frequency is some product of the first formant and a ratio factor. As to claim 4, nasal detection is done in the frequency range of 640-2800 Hz and thereby meets the claim limitation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosaka. Kosaka does not disclose a sampling frequency not smaller than 20 KHz, as recited in claim 8. Speech signals range from a couple of hundred Hertz to over 10 KHz. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to sample the incoming audio signal at 20 KHz or greater to avoid aliasing. Regarding claim 9, the choice of frequency of the Fourier transformation in the Kosaka apparatus is merely one of obvious design.

Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosaka in view of Rothenberg, US Patent 6,850,882. Kosaka discloses a speech recognition system comprising microphone 18, analyzing unit 19 and computer 20. The computer inherently has an audio capturing card and a program for calculating a fundamental frequency and a divisional frequency (see figure 3). Figure 4 illustrates that voice low frequency to high frequency ratio is calculated. Kosaka does not explicitly disclose a monitoring for displaying the variation of the voice low frequency to high frequency ratio. In the same field of endeavor, Rothenberg discloses a system comprising monitor 35 to display velar function during speech. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Kosaka to include a monitor, as taught by Rothenberg, for the purpose of indicating the speech detection results. As to claim 11, inherently there is a Fourier transformation. Regarding claim 12, speech

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signals range from a couple of hundred Hertz to over 10 KHz. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to sample the incoming audio signal at 20 KHz or greater to avoid aliasing. Regarding claim 13, the choice of frequency of the Fourier transformation in the modified Kosaka apparatus is merely one of obvious design.

Allowable Subject Matter

Claims 5-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Iwahashi et al, US Patent 4,937,869 and Uffelman et al, US Patent 3,679,830.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (571) 272-7527. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian T. Pendleton
Primary Examiner
Art Unit 2615



btp